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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,536	10/06/2000	Kamran R. Khadavi	DR-224 (50564)	1536

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EXAMINER

WAHBA, ANDREW W

ART UNIT PAPER NUMBER

2661

DATE MAILED: 02/13/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/684,536

Applicant(s)

KHADAVI, KAMRAN R.

Examiner

Andrew W Wahba

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 3, 12, 13, 33 and 4, 5, 6, 11, 14, 15, 16, 21, 25, 26, 27, 32, 36, 37, 38, 43 is/are rejected.
- 7) ☒ Claim(s) 7-10, 17-20, 28-31, 34, 35 and 39-42 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. New corrected drawings are required in this application because present drawings are difficult to read and are informal. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 3, 12, 13, 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Amrany et al. With respect to claims 1 and 22, Amrany et al discloses a method and apparatus for improved DSL communication. To determine the maximum permissible transmit signal power, Amrany et al sends a single- or multi- tone test signal or any other signal compatible with xDSL (column 3, lines 20-25). This step corresponds to the applicant's claim limitation of determining the physical loop faults. In

response to a detected line condition, the xDSL communication is transmitted at the highest data rate supported by the transmission line (column 3, lines 46-48). This step corresponds to the applicant's claim limitations of qualifying the local loop for a particular DSL technology and calculating the data rates of the local loop for a particular technology. Amrany et al further discloses the monitoring of the signal-to-noise ratio (column 8, lines 63-65). This step corresponds to the applicant's claim limitation of quantifying the local loop by calculating the signal-to-noise ratio.

4. With respect to claims 2 and 3, the Amrany et al patent is for use with xDSL technologies that include symmetric- and asymmetric- DSL.

5. With respect to claims 12 and 33, Amrany et al discloses a method and apparatus for improved DSL communication. To determine the maximum permissible transmit signal power, Amrany et al sends a single- or multi- tone test signal or any other signal compatible with xDSL (column 3, lines 20-25). This step corresponds to the applicant's claim limitation of determining the physical loop faults. In response to a detected line condition, the xDSL communication is transmitted at the highest data rate supported by the transmission line (column 3, lines 46-48). This step corresponds to the applicant's claim limitations of qualifying the local loop for a particular DSL technology and calculating the data rates of the local loop for a particular technology. Amrany et al further discloses the monitoring of signal spectral characteristics of the test signal (column 8, lines 40-44). This step corresponds to the applicant's claim limitation of quantifying the local loop by calculating the PSD.

6. With respect to claim 13, the Amrany et al patent is for use with xDSL technologies that includes asymmetric- DSL.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4, 5, 6, 11, 14, 15, 16, 21, 25, 26, 27, 32, 36, 37, 38 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amrany in view of Liu et al. With respect to claims 4, 5, 6, 25, 26, and 27, Amrany et al discloses a method and apparatus for improved DSL communication. To determine the maximum permissible transmit signal power, Amrany et al sends a single- or multi- tone test signal or any other signal compatible with xDSL (column 3, lines 20-25). In response to a detected line condition, the xDSL communication is transmitted at the highest data rate supported by the transmission line (column 3, lines 46-48). Amrany et al further discloses the monitoring of the signal-to-noise ratio (column 8, lines 63-65). Amrany et al, however, does not disclose a specific method for calculating the signal-to-noise ratio. Liu et al discloses a single-ended subscriber loop qualification for xDSL. In the disclosure, Liu et al specifies the manner in which the signal-to-noise ratio is determined at a particular frequency. Specifically, the signal-to-noise ratio is calculated from resistance (R), inductance (L), conductance (G), and capacitance (C) (column 8, lines 12-18). These

values are well known to those of ordinary skill in the art for the modeling of transmission lines. Thus, it would have been obvious to one of ordinary skill in the art to employ resistance (R), inductance (L), conductance (G), and capacitance (C) to both model a transmission line as well as determine the signal-to-noise ratio.

9. With respect to claims 11 and 32, Amrany et al discloses a method and apparatus for improved DSL communication. To determine the maximum permissible transmit signal power, Amrany et al sends a single- or multi- tone test signal or any other signal compatible with xDSL (column 3, lines 20-25). In response to a detected line condition, the xDSL communication is transmitted at the highest data rate supported by the transmission line (column 3, lines 46-48). Amrany et al further discloses the monitoring of the signal-to-noise ratio (column 8, lines 63-65). Amrany et al, however, does not disclose the selection of a DSL technology from a configurable list.

Nimmagadda discloses a method for the selection of a communication technology. As shown in Fig 3, after the performance information is determined, a subscriber may evaluate the information and select the most appropriate mode of operation. The appropriate mode is selected from a list (column 3, lines 9-25). Thus, it would have been obvious to one of ordinary skill in the art to employ a list from which the most appropriate DSL technology may be chosen.

10. With respect to claims 14, 15, 16, 36, 37, and 38, Amrany et al discloses a method and apparatus for improved DSL communication. To determine the maximum permissible transmit signal power, Amrany et al sends a single- or multi- tone test signal or any other signal compatible with xDSL (column 3, lines 20-25). In response to a

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detected line condition, the xDSL communication is transmitted at the highest data rate supported by the transmission line (column 3, lines 46-48). Amrany et al further discloses the monitoring of signal spectral characteristics of the test signal (column 8, lines 40-44). Amrany et al, however, does not disclose a specific method for calculating the signal-to-noise ratio. Liu et al discloses a single-ended subscriber loop qualification for xDSL. In the disclosure, Liu et al specifies the manner in which the signal-to-noise ratio is determined at a particular frequency. Specifically, the signal-to-noise ratio is calculated from resistance (R), inductance (L), conductance (G), and capacitance (C) (column 8, lines 12-18). These values are well known to those of ordinary skill in the art for the modeling of transmission lines. Thus, it would have been obvious to one of ordinary skill in the art to employ resistance (R), inductance (L), conductance (G), and capacitance (C) to both model a transmission line as well as determine the signal-to-noise ratio.

11. With respect to claims 21 and 43, Amrany et al discloses a method and apparatus for improved DSL communication. To determine the maximum permissible transmit signal power, Amrany et al sends a single- or multi- tone test signal or any other signal compatible with xDSL (column 3, lines 20-25). In response to a detected line condition, the xDSL communication is transmitted at the highest data rate supported by the transmission line (column 3, lines 46-48). Amrany et al further discloses the monitoring of signal spectral characteristics of the test signal (column 8, lines 40-44). Amrany et al, however, does not disclose the selection of a DSL technology from a configurable list. Nimmagadda discloses a method for the selection of a communication

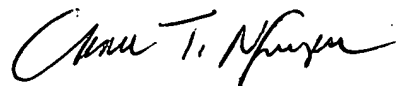
technology. As shown in Fig 3, after the performance information is determined, a subscriber may evaluate the information and select the most appropriate mode of operation. The appropriate mode is selected from a list (column 3, lines 9-25). Thus, it would have been obvious to one of ordinary skill in the art to employ a list from which the most appropriate DSL technology may be chosen.

***Allowable Subject Matter***

12. Claims 7-10, 17-20, 28-31, 34-35, 39-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew W Wahba whose telephone number is (703) 305-4684. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Olms can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



CHAU NGUYEN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600



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Andrew Wahba

AW

February 6, 2004